

NON-PUBLIC?: N
ACCESSION #: 9208140029
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Shearon Harris Nuclear Power Plant - PAGE: 1 OF 03
Unit #1

DOCKET NUMBER: 05000400

TITLE: Reactor Trip due to failure of the Low Pressure Turbine Exhaust
Boot Seal.

EVENT DATE: 07/12/92 LER #: 92-007-00 REPORT DATE: 08/11/92

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Mike Verrilli Specialist - TELEPHONE: (919) 362-2303
Regulatory Compliance

COMPONENT FAILURE DESCRIPTION:
CAUSE: B SYSTEM: SG COMPONENT: EXJ MANUFACTURER: U066
REPORTABLE NPRDS: Y

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On July 12, 1992 at 0208 hours an automatic turbine trip and reactor trip occurred due to low condenser vacuum. All safety systems functioned as required, including an automatic Auxiliary Feedwater (AFW) System actuation on steam generator lo-lo level. Main control room personnel stabilized the plant using the appropriate emergency operating procedures. The condenser low vacuum was caused by a failure of the north low pressure turbine exhaust boot seal. This seal is a fabric reinforced rubber expansion joint and appears to have failed due to routine fatigue caused by aging. The failed portion of the seal was repaired on July 13, 1992 and plans were made to replace the entire boot seal in the upcoming refueling outage which begins in September 1992.

This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as

an Engineered Safety Feature and Reactor Protection System actuation.

END OF ABSTRACT

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EVENT DESCRIPTION:

On July 12, 1992 the plant was operating in Mode-1 at 100% power. At 0200 hours a control room operator observed that condenser absolute pressure had increased to 7 inches Hg. Actions were immediately taken in accordance with the "Decrease in Condenser Vacuum" Abnormal Operating Procedure (AOP-012). Unit load was decreased and condenser absolute pressure appeared to stabilize at approximately 7.5 inches Hg. At 0208 condenser absolute pressure increased very rapidly and indication went off-scale high. A turbine trip on low condenser vacuum generated a reactor trip. Operators then stabilized the plant using the Emergency Operating Procedure (EOP) network. The transient immediately following the turbine trip/reactor trip (2:08:33) caused an automatic Auxiliary Feedwater (AFW) System actuation on steam generator lo-lo level as expected. Both motor-driven pumps operated as required and were then manually secured by the control operator at 0212 hours.

There have been no previous Licensee Event Reports issued due to a turbine trip and reactor trip caused by a turbine exhaust boot failure.

CAUSE:

The cause for the condenser low vacuum condition was discovered to be a failure of the north low pressure turbine exhaust boot seal (EIIS-SG, Manufacturer-Uniroyal). This seal is a fabric reinforced rubber expansion joint and appears to have failed due to routine fatigue caused by aging. A horizontal tear approximately five feet in length was found.

Investigation into additional possible failure modes is currently in progress.

SAFETY SIGNIFICANCE:

There were no safety consequences as a result of this event. All safety systems functioned as required to place the plant in a safe condition.

CORRECTIVE ACTIONS:

1. Repairs to the low pressure turbine exhaust boot seal were completed on July 13, 1992.

2. Plans were made to replace the entire boot seal in the upcoming refueling outage starting in September 1992.

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EIIS Information:

Condenser System - SG
Auxiliary Feedwater - BA

ATTACHMENT 1 TO 9208140029 PAGE 1 OF 1

CP&L

Carolina Power & Light Company

P.O. Box 165 o New Hill, N.C. 27562

C. S. HINNANT
General Manager - Harris Plant

AUG 11 1992

Letter Number: HO-920116

U.S. Nuclear Regulatory Commission
ATTN: NRC Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1
DOCKET NO. 50-400
LICENSE NO. NPF-63
LICENSEE EVENT REPORT 92-007-00

Gentlemen:

In accordance with Title 10 to the Code of Federal Regulations, the enclosed Licensee Event Report is submitted. This report fulfills the requirement for a written report within thirty (30) days of a reportable occurrence and is in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours

C. S. Hinnant

General Manager
Harris Nuclear Project

MV:dmw

Enclosure

cc: Mr. S. D. Ebnetter (NRC - RII)
Mr. N. B. Le (NRC - RII)
Mr. J. E. Tedrow (NRC - SHNPP)
Mr. G. E. Vaughn

MEM/LER92-007/1/OS1

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